



Post-Traumatic Stress Disorder

September 2004

1: Am J Psychiatry. 2004 Aug;161(8):1488-90.

Low-dose cortisol for symptoms of posttraumatic stress disorder.

Aerni A, Traber R, Hock C, Roozendaal B, Schelling G, Papassotiropoulos A, Nitsch RM, Schnyder U, de Quervain DJ.

Division of Psychiatry Research, University of Zurich, Lenggstr. 31, 8029 Zurich, Switzerland.

OBJECTIVE: Because elevated cortisol levels inhibit memory retrieval in healthy human subjects, the present study investigated whether cortisol administration might also reduce excessive retrieval of traumatic memories and related symptoms in patients with chronic posttraumatic stress disorder (PTSD). **METHOD:** During a 3-month observation period, low-dose cortisol (10 mg/day) was administered orally for 1 month to three patients with chronic PTSD in a double-blind, placebo-controlled, crossover design. **RESULTS:** In each patient investigated, there was a significant treatment effect, with cortisol-related reductions of at least 38% in one of the daily rated symptoms of traumatic memories, as assessed by self-administered rating scales. In accordance, Clinician-Administered PTSD Scale ratings assessed after each month showed cortisol-related improvements for reexperiencing symptoms and, additionally, in one patient for avoidance symptoms. **CONCLUSIONS:** The results of this pilot study indicate that low-dose cortisol treatment reduces the cardinal symptoms of PTSD.

Publication Types:

- Case Reports
- Clinical Trial

PMID: 15285979 [PubMed - indexed for MEDLINE]

2: Am J Psychiatry. 2004 Aug;161(8):1426-32.

Promising treatments for women with comorbid PTSD and substance use disorders.

Hien DA, Cohen LR, Miele GM, Litt LC, Capstick C.

Women's Health Project Treatment and Research Center, St. Luke's/Roosevelt
Hospital Center, 411 West 114th St., Suite 3B, New York, NY 10025, USA.
dhien@chpnet.org

OBJECTIVE: The authors' goal was to compare the efficacy of a manualized cognitive behavior therapy that addresses both posttraumatic stress disorder (PTSD) and substance abuse (seeking safety) with a manualized cognitive behavior therapy that addresses only substance abuse (relapse prevention) and with standard community care for the treatment of comorbid posttraumatic stress disorder (PTSD) and substance use disorder. **METHOD:** One hundred seven women from an urban, low-income population who had comorbid PTSD and substance use disorder were randomly assigned to receive the two kinds of cognitive behavior therapy or received standard community treatment. Participants were recruited from both community and clinical populations and evaluated with structured clinical instruments. Forty-one women received seeking safety therapy, 34 received relapse prevention therapy, and 32 received standard community care. **RESULTS:** At the end of 3 months of treatment, participants in both cognitive behavior therapy conditions had significant reductions in substance use, PTSD, and psychiatric symptoms, but community care participants worsened over time. Both groups receiving cognitive behavior therapy sustained greater improvement in substance use and PTSD symptoms at 6-month and 9-month follow-ups than subjects in the community care group. **CONCLUSIONS:** Seeking safety and relapse prevention are efficacious short-term treatments for low-income urban women with PTSD, substance use disorder, and other psychiatric symptoms.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 15285969 [PubMed - indexed for MEDLINE]

3: Am J Psychiatry. 2004 Aug;161(8):1397-403.

The ACTH response to dexamethasone in PTSD.

Yehuda R, Golier JA, Halligan SL, Meaney M, Bierer LM.

Traumatic Stress Studies Program, Department of Psychiatry, Mount Sinai School of Medicine, and Bronx Veterans Affairs Medical Center, New York, USA.
rachel.yehuda@med.va.gov

OBJECTIVE: Enhanced negative feedback and reduced adrenal output are two different models that have been put forth to explain the paradoxical observations of increased release of corticotropin-releasing factor in the face of low cortisol levels in posttraumatic stress disorder (PTSD). To discriminate between these models, the authors measured levels of adrenocorticotropic hormone (ACTH) and cortisol at baseline and in response to dexamethasone in medically healthy subjects with and without PTSD. Under conditions of enhanced negative feedback inhibition, ACTH levels would not be altered relative to cortisol levels, but the ACTH response to dexamethasone would be augmented, in concert with the enhanced cortisol response to dexamethasone. In contrast, under conditions of reduced adrenal output, ACTH levels would be expected to be higher at baseline relative to cortisol levels, but the ACTH response to dexamethasone would be unchanged in PTSD relative to healthy comparison subjects. **METHOD:** The ACTH and cortisol responses to 0.50 mg of

dexamethasone were assessed in 19 subjects (15 men and four women) with PTSD and 19 subjects (14 men and five women) without psychiatric disorder. RESULTS: The ACTH-to-cortisol ratio did not differ between groups before or after dexamethasone, but the subjects with PTSD showed greater suppression of ACTH (as well as cortisol) in response to dexamethasone. CONCLUSIONS: The data support the hypothesis of enhanced cortisol negative feedback inhibition of ACTH secretion at the level of the pituitary in PTSD. Pituitary glucocorticoid receptor binding, rather than low adrenal output, is implicated as a likely mechanism for this effect.

PMID: 15285965 [PubMed - indexed for MEDLINE]

4: Am J Psychiatry. 2004 Aug;161(8):1390-6.

Posttraumatic stress disorder and depression following trauma: understanding comorbidity.

O'Donnell ML, Creamer M, Pattison P.

Department of Psychology, University of Melbourne, Victoria, Australia.
mod@unimelb.edu.au

OBJECTIVE: Posttraumatic stress disorder (PTSD) and major depression occur frequently following traumatic exposure, both as separate disorders and concurrently. This raises the question of whether PTSD and depression are separate disorders in the aftermath of trauma or part of a single general traumatic stress construct. This study aimed to explore the relationships among PTSD, depression, and comorbid PTSD/depression following traumatic injury. METHOD: A group of 363 injury survivors was assessed just prior to discharge from hospital and 3 and 12 months postinjury. Canonical correlations were used to examine the relationship between PTSD and depression symptom severity and a set of predictor variables. Multinomial logistic regression was used to identify whether the diagnostic categories of PTSD, depression, and comorbid PTSD/depression were associated with different groups of predictors. RESULTS: The majority of psychopathology in the aftermath of trauma was best conceptualized as a general traumatic stress factor, suggesting that when PTSD and depression occur together, they reflect a shared vulnerability with similar predictive variables. However, there was also evidence that in a minority of cases at 3 months, depression occurs independently from PTSD and was predicted by a different combination of variables. CONCLUSIONS: While PTSD and comorbid PTSD/depression are indistinguishable, the findings support the existence of depression as a separate construct in the acute, but not the chronic, aftermath of trauma.

PMID: 15285964 [PubMed - indexed for MEDLINE]

5: Am J Psychiatry. 2004 Aug;161(8):1384-9.

The psychological impact of terrorism: an epidemiologic study of posttraumatic stress disorder and associated factors in victims of the 1995-1996 bombings in France.

Verger P, Dab W, Lamping DL, Loze JY, Deschaseaux-Voinet C, Abenhaim L, Rouillon F.

Regional Health Observatory-INSERM U379, Marseille, France.

OBJECTIVE: A wave of bombings struck France in 1995 and 1996, killing 12 people and injuring more than 200. The authors conducted follow-up evaluations with the victims in 1998 to determine the prevalence of and factors associated with posttraumatic stress disorder (PTSD). **METHOD:** Victims directly exposed to the bombings (N=228) were recruited into a retrospective, cross-sectional study. Computer-assisted telephone interviews were conducted to evaluate PTSD, per DSM-IV criteria, and to assess health status before the attack, initial injury severity and perceived threat at the time of attack, and psychological symptoms, cosmetic impairment, hearing problems, and health service use at the time of the follow-up evaluation. Factors associated with PTSD were investigated with univariate logistic regression followed by multiple logistic regression analyses. **RESULTS:** A total of 196 respondents (86%) participated in the study. Of these, 19% had severe initial physical injuries (hospitalization exceeding 1 week). Problems reported at the follow-up evaluation included attack-related hearing problems (51%), cosmetic impairment (33%), and PTSD (31%) (95% confidence interval=24.5%-37.5%). Results of logistic regression analyses indicated that the risk of PTSD was significantly higher among women (odds ratio=2.54), participants age 35-54 (odds ratio=2.83), and those who had severe initial injuries (odds ratio=2.79) or cosmetic impairment (odds ratio=2.74) or who perceived substantial threat during the attack (odds ratio=3.99). **CONCLUSIONS:** The high prevalence of PTSD 2.6 years on average after a terrorist attack emphasizes the need for improved health services to address the intermediate and long-term consequences of terrorism.

PMID: 15285963 [PubMed - indexed for MEDLINE]

6: Am J Psychiatry. 2004 Aug;161(8):1370-6.

Acute stress disorder, posttraumatic stress disorder, and depression in disaster or rescue workers.

Fullerton CS, Ursano RJ, Wang L.

Center for the Study of Traumatic Stress, Department of Psychiatry, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Rd., Bethesda, MD 20814-4799, USA. cfullert@erols.com

OBJECTIVE: The events of Sept. 11, 2001, highlighted the importance of understanding the effects of trauma on disaster workers. To better plan for the health care of disaster workers, this study examined acute stress disorder, posttraumatic stress disorder (PTSD), early dissociative symptoms, depression, and health care utilization in disaster workers. **METHOD:** Exposed disaster workers (N=207) and unexposed comparison subjects (N=421) were examined at 2, 7, and 13 months after an airplane crash. **RESULTS:** Exposed disaster workers had significantly higher rates of acute stress disorder, PTSD at 13 months, depression at 7 months, and depression at 13 months than comparison subjects. Those who were younger and single were more likely to develop acute stress disorder. Exposed disaster workers with acute stress disorder were 3.93 times more likely to be depressed at 7 months. Those with high exposure and previous disaster experience or who had acute stress disorder were more likely to develop PTSD. Similarly, those who were depressed at 7 months were 9.5 times more likely to have PTSD. Those who were depressed at 13 months were 7.96 times more likely to also meet PTSD

criteria. More exposed disaster workers than comparison subjects obtained medical care for emotional problems at 2, 7, and 13 months. Overall, 40.5% of exposed disaster workers versus 20.4% of comparison subjects had acute stress disorder, depression at 13 months, or PTSD. CONCLUSIONS: Exposed disaster workers are at increased risk of acute stress disorder, depression, or PTSD and seek care for emotional problems at an increased rate.

PMID: 15285961 [PubMed - indexed for MEDLINE]

7: Am J Psychiatry. 2004 Aug;161(8):1321-3.

Acute and delayed posttraumatic stress disorders: a history and some issues.

Andreasen NC.

Publication Types:

Editorial

Historical Article

PMID: 15285955 [PubMed - indexed for MEDLINE]

8: J Consult Clin Psychol. 2004 Jun;72(3):531-4.

Do assault-related variables predict response to cognitive behavioral treatment for PTSD?

Hembree EA, Street GP, Riggs DS, Foa EB.

Center for the Treatment and Study of Anxiety, Department of Psychiatry, University of Pennsylvania, Philadelphia 19104, USA. hembree@mail.med.upenn.edu

This study examined the hypothesis that variables such as history of prior trauma, assault severity, and type of assault, previously found to be associated with natural recovery, would also predict treatment outcome. Trauma-related variables were examined as predictors of posttreatment posttraumatic stress disorder (PTSD) severity in a sample of 73 female assault victims with chronic PTSD who completed treatment in a comparative outcome study (E. B. Foa et al., 1999). Results indicated that after controlling for initial severity of PTSD symptoms, the experience of trauma in childhood and sustaining physical injury during the adult assault were predictive of greater PTSD severity following treatment. (c) 2004 APA, all rights reserved

PMID: 15279536 [PubMed - indexed for MEDLINE]

9: J Consult Clin Psychol. 2004 Jun;72(3):417-33.

Positive tertiary appraisals and posttraumatic stress disorder in U.S. male veterans of the war in Vietnam: the roles of positive affirmation, positive reformulation, and defensive denial.

Dohrenwend BP, Neria Y, Turner JB, Turse N, Marshall R, Lewis-Fernandez R, Koenen KC.

Department of Psychiatry, Columbia University, New York, NY 10032, USA.
dohrenw@pi.cpmc.columbia.edu

A 70.9% majority of the U.S. male veterans in a nationwide sample appraised the impact of their service in Vietnam on their present lives as mainly positive. A substantial minority, 41.7%, judged the effects to be highly salient. With controls on level of exposure to war-zone stressors measured with data from military records, the valence and salience of these appraisals are investigated in relation to posttraumatic stress disorder (PTSD) and other indicators of wartime and postwar functioning. The results are consistent with the hypothesis that mainly positive tertiary appraisals are affirmations of successful wartime and postwar adaptation rather than defensive denials related to maladaptive outcomes. The possibility that mainly positive tertiary appraisals also contribute to successful postwar adaptation is discussed. (c) 2004 APA, all rights reserved

PMID: 15279526 [PubMed - indexed for MEDLINE]

10: J Soc Psychol. 2004 Aug;144(4):407-20.

World assumptions and combat-related posttraumatic stress disorder.

Dekel R, Solomon Z, Eklit A, Ginzburg K.

Bob Shapell School of Social Work, Tel-Aviv University, Israel. dekel@mail.biu.ac.il

The authors examined the association between (a) personal world assumptions and (b) combat stress reactions (CSRs), posttraumatic stress disorder (PTSD), and PTSD's course among three groups of Israeli veterans: 109 veterans who suffered from CSR on the battlefield, 98 decorated veterans, and 189 control participants. Participants completed standardized questionnaires that measured PTSD and world assumption. Both CSR and chronic PTSD were associated with lower levels of self-worth and beliefs about the benevolence of people. In addition, the authors found a linear association between self-worth perceptions and levels of mental status. The authors examined the results of the study considering the extraordinary characteristics and meaning of war.

PMID: 15279330 [PubMed - indexed for MEDLINE]

11: Neuropsychol Rev. 2004 Jun;14(2):115-29.

Clinical perspectives on neurobiological effects of psychological trauma.

Weber DA, Reynolds CR.

Department of Educational Psychology, Texas A&M University, College Station, Texas 77843-4225, USA. Dweber@med.miami.edu

Physical trauma to the brain has always been known to affect brain functions and subsequent neurobiological development. Research primarily since the early 1990s

has shown that psychological trauma can have detrimental effects on brain function that are not only lasting but that may alter patterns of subsequent neurodevelopment, particularly in children although developmental effects may be seen in adults as well. Childhood trauma produces a diverse range of symptoms and defining the brain's response to trauma and the factors that mediate the body's stress response systems is at the forefront of scientific investigation. This paper reviews the current evidence relating psychological trauma to anatomical and functional changes in the brain and discusses the need for accurate diagnosis and treatment to minimize such effects and to recognize their existence in developing treatment programs.

Publication Types:

Review

Review, Academic

PMID: 15264712 [PubMed - indexed for MEDLINE]

12: J Neuropsychiatry Clin Neurosci. 2004 Spring;16(2):135-47.

Posttraumatic stress disorder: acquisition, recognition, course, and treatment.

Davidson JR, Stein DJ, Shalev AY, Yehuda R.

Department of Psychiatry and Behavioral Sciences, Duke University Medical Center
Durham, NC 27710, USA. tolme@acpub.duke.edu

Following exposure to trauma, a large number of survivors will develop acute symptoms of posttraumatic stress disorder (PTSD), which mostly dissipate within a short time. In a minority, however, these symptoms will evolve into chronic and persistent PTSD. A number of factors increase the likelihood of this occurring, including characteristic autonomic and hypothalamic-pituitary-adrenal axis responses. PTSD often presents with comorbid depression, or in the form of somatization, both of which significantly reduce the possibilities of a correct diagnosis and appropriate treatment. Mainstay treatments include exposure-based psychosocial therapy and selective serotonin reuptake inhibitors, such as paroxetine and sertraline, both of which have been found to be effective in PTSD. This paper looks at the course of PTSD, its disabling effect, its recognition and treatment, and considers possible new research directions.

Publication Types:

Review

Review, Tutorial

PMID: 15260364 [PubMed - indexed for MEDLINE]

13: Epidemiol Psichiatr Soc. 2004 Jan-Mar;13(1):4-9.

The state of research on the mental health effects of terrorism.

North CS, Pfefferbaum B.

Publication Types:

Editorial
Review
Review, Academic

PMID: 15248388 [PubMed - indexed for MEDLINE]

14: Psychiatry Res. 2004 May 30; 131(1): 79-89.

Dimensional complexity of the EEG in patients with posttraumatic stress disorder.

Chae JH, Jeong J, Peterson BS, Kim DJ, Bahk WM, Jun TY, Kim SY, Kim KS.

Department of Psychiatry, College of Medicine, Catholic University of Korea, Seoul, South Korea.

Recent electrophysiological studies have reported evidence of information processing abnormalities in patients with posttraumatic stress disorder (PTSD). The aim of this study is to examine dynamical complexity of the EEG in PTSD patients, which is thought to reflect information processing of the brain. Resting EEG recordings (32,800 data points acquired continuously from 82 s of an EEG record) were obtained in 16 channels of 27 patients with PTSD from a mixed civilian trauma population and 14 healthy subjects. The correlation dimension (D2) of the EEG was used to quantify the complexity of the cortical dynamics underlying the EEG signal. The PTSD patients were found to have lower D2 values than those of the healthy subjects in most channels (Fp1, F8, C4, P4, T3, T4, T5, T6, and O1), indicating that PTSD patients have globally reduced complexity in their EEG waveforms. This study supports the hypotheses that PTSD patients exhibit disturbed cortical information processing, and that non-linear dynamical analysis of the EEG can be a tool for detecting changes in neurodynamics of the brain in PTSD.

PMID: 15246457 [PubMed - indexed for MEDLINE]

15: Psychosomatics. 2004 Jul-Aug; 45(4): 291-6.

PTSD and somatization in women treated at a VA primary care clinic.

Escalona R, Achilles G, Waitzkin H, Yager J.

New Mexico VA Health Care System, Department of Psychiatry, University of New Mexico School of Medicine, Albuquerque, NM, USA. pescalona@salud.unm.edu

The authors examined the association between trauma, posttraumatic stress disorder (PTSD), and somatization in 264 women attending a Department of Veterans Affairs primary care clinic. Using a structured computerized interview (Composite International Diagnostic Interview), they found that traumatic events were reported by 81% of the women. The lifetime prevalence of PTSD was 27%; for somatization it was 19%. PTSD was the best predictor of somatization after control for demographic variables, veteran status, and other mood and anxiety disorders. Psychological numbing symptoms of PTSD emerged as a particularly strong predictor of somatization. The link between PTSD and somatization deserves further study.

PMID: 15232042 [PubMed - indexed for MEDLINE]

16: Neuropsychopharmacology. 2004 Aug;29(8):1546-57.

An increased capacity for adrenal DHEA release is associated with decreased avoidance and negative mood symptoms in women with PTSD.

Rasmusson AM, Vasek J, Lipschitz DS, Vojevoda D, Mustone ME, Shi Q, Gudmundsen G, Morgan CA, Wolfe J, Charney DS.

Department of Psychiatry, Yale University School of Medicine & VA National Center for PTSD, Clinical Neuroscience Division, VA Boston Healthcare System, West Haven, CT 06516, USA. ann.rasmusson@yale.edu

We recently found increased adrenal cortisol responses to adrenocorticotrophic hormone (ACTH)1-24 and increased pituitary ACTH and adrenal cortisol responses to corticotropin-releasing factor in premenopausal women with chronic post-traumatic stress disorder (PTSD) compared to healthy nontraumatized subjects. This pattern of hypothalamic-pituitary-adrenal axis (HPA) hyper-reactivity has been previously seen in healthy individuals treated with the antiglucocorticoid mifepristone. We therefore investigated whether endogenous plasma levels of antiglucocorticoids such as dehydroepiandrosterone (DHEA) and progesterone were increased in premenopausal women with PTSD at baseline or in response to adrenal activation by ACTH1-24. The study revealed that DHEA responses to 250 microg ACTH1-24 were increased in 13 PTSD subjects compared to 13 healthy nontraumatized subjects, while DHEA levels were generally increased in the PTSD subjects compared to seven healthy traumatized subjects. Cortisol responses to ACTH1-24 were also higher in the women with PTSD, while progesterone levels and responses were not different among the three groups. In addition, among the PTSD subjects, the peak change in DHEA in response to ACTH1-24 was negatively correlated with the total Clinician Administered PTSD Scale score, while the peak DHEA to cortisol ratio was inversely associated with negative mood symptoms measured by the Profile of Mood States scale. This work suggests that an increased capacity for DHEA release in response to extreme adrenal activation may influence the pattern of HPA axis adaptation to extreme stress, as well as mitigate the severity of PTSD and negative mood symptoms in premenopausal women with PTSD.

PMID: 15199367 [PubMed - indexed for MEDLINE]

17: Schizophr Bull. 2004;30(1):45-57.

Interpersonal trauma and posttraumatic stress disorder in patients with severe mental illness: demographic, clinical, and health correlates.

Mueser KT, Salyers MP, Rosenberg SD, Goodman LA, Essock SM, Osher FC, Swartz MS, Butterfield MI; 5 Site Health and Risk Study Research Committee.

Dartmouth Medical School, Lebanon, NH, USA. kim.t.mueser@dartmouth.edu

This study's purpose was to evaluate the prevalence and correlates of posttraumatic stress disorder (PTSD) in persons with severe mental illness. Standardized assessments of interpersonal trauma and PTSD were conducted in 782 patients with

severe mental illness receiving services in one of five inpatient and outpatient treatment settings. Analyses examined the prevalence of PTSD and the demographic, clinical, and health correlates of PTSD diagnosis. The overall rate of current PTSD in the sample was 34.8 percent. For demographic characteristics, the prevalence of PTSD was higher in patients who were younger, white, homeless, and unemployed. For clinical and health variables, PTSD was more common in patients with major mood disorders (compared to schizophrenia or schizoaffective disorders), alcohol use disorder, more recent psychiatric hospitalizations, more health problems, more visits to doctors for health problems, and more nonpsychiatric hospitalizations over the past year. The results support prior research documenting the high rates of PTSD in patients with severe mental illness and suggest that PTSD may contribute to substance abuse, psychiatric and medical comorbidity, and psychiatric and health service utilization.

PMID: 15176761 [PubMed - indexed for MEDLINE]

18: J R Army Med Corps. 2004 Mar;150(1):67-71.

No pain, no gain. Part II. A personal conceptualisation of PTSD and post traumatic psychological difficulties.

Palmer I.

Royal Centre for Defence Medicine, Oak Tree Lane, Selly Oak, Birmingham, B29 6JF.
ianpalmer@doctors.org.uk

PMID: 15149017 [PubMed - indexed for MEDLINE]

19: J Clin Psychopharmacol. 2004 Jun;24(3):291-7.

A placebo-controlled study of nefazodone for the treatment of chronic posttraumatic stress disorder: a preliminary study.

Davis LL, Jewell ME, Ambrose S, Farley J, English B, Bartolucci A, Petty F.

VA Medical Center (151), 3701 Loop Road East, Tuscaloosa, AL 35404, USA.
Lori.Davis@med.va.gov

Nefazodone is a unique serotonergic antidepressant that acts as both a presynaptic serotonin reuptake inhibitor and a postsynaptic 5-hydroxytryptamine 2A receptor antagonist. Based on the positive results of open-label trials of nefazodone, including one from our group, we tested nefazodone's efficacy in the treatment of posttraumatic stress disorder (PTSD) under placebo-controlled conditions. Forty-one patients with chronic PTSD, predominantly male combat veterans, were enrolled in a randomized, double-blind, placebo-controlled 12-week trial of nefazodone. The primary outcome measure was the Clinician-Administered PTSD Scale. Fifteen patients were randomized to placebo and 26 were randomized to nefazodone. In a repeated-measures analysis of variance with last observation carried forward, patients on nefazodone showed a significant improvement in the percentage change of Clinician-Administered PTSD Scale Total score from baseline compared with those on placebo ($P = 0.04$; effect size = 0.6). Sample size was not powered to test group differences in the Clinician-Administered PTSD Scale criterion B, C, or D subscale.

However, the criterion D subscale showed significant improvement in patients treated with nefazodone compared with those treated with placebo ($P = 0.007$). In addition, the Hamilton Rating Scale for Depression showed significant improvement compared with placebo ($P = 0.008$). The nefazodone group also reported an improvement on the PTSD Checklist (self-report scale; $P = 0.08$) and the Clinician-Administered Dissociative States Scale ($P = 0.06$). This pilot study supports the efficacy of nefazodone for the treatment of PTSD. However, larger placebo-controlled studies in more diverse patient population are warranted.

Publication Types:

Clinical Trial

Randomized Controlled Trial

PMID: 15118483 [PubMed - indexed for MEDLINE]

20: Am J Prev Med. 2004 May;26(4):284-93.

Mental health impact of 9/11 Pentagon attack: validation of a rapid assessment tool.

Jordan NN, Hoge CW, Tobler SK, Wells J, Dydek GJ, Egerton WE.

U.S. Army Center for Health Promotion and Preventive Medicine, Directorate of Epidemiology and Preventive Medicine, Aberdeen Proving Grounds, Edgewood, Maryland 21010, USA. Nikki.Jordan@apg.amedd.army.mil

BACKGROUND: Following the tragic events of 9/11/2001, the Pentagon Post Disaster Health Assessment (PPDHA) survey was created to identify healthcare needs and concerns among Pentagon personnel and to assure that appropriate care and information was provided. The PPDHA was fielded from October 15, 2001, to January 15, 2002. Fundamental in this assessment was the evaluation of the mental health impact as a result of the attack. **METHODS:** Although a number of standardized instruments exist for mental health domains, most are lengthy and could not be used as a rapid health assessment. Instead, a short screening instrument consisting of 17 questions was developed that covered important mental health symptom domains, mental health functioning, and possible predictive risk factors. High-risk groups for post-traumatic stress disorder (PTSD), depression, panic attacks, generalized anxiety, and alcohol abuse were assessed, and validation of risk groups was assessed across functional levels. **RESULTS:** Overall, 1837 (40%) respondents met the screening criteria for any of the symptom domains of interest 1 to 4 months after the attack: PTSD (7.9%), depression (17.7%), panic attacks (23.1%), generalized anxiety (26.9%), or alcohol abuse (2.5%). Mental health risk groups were highly correlated with self-reported reduced daily functioning and use of counseling services. Additionally, risk factors known to be associated with mental health problems after traumatic events were strongly predictive of the high-risk categories identified. **CONCLUSIONS:** Mental health concerns were common among Pentagon employees in the 4 months after the 9/11 attack. Data from this study suggested that the short mental health screening instrument had validity and can serve as a prototype for rapid public health assessment of the mental health impact of future traumatic events.

Publication Types:

Validation Studies

PMID: 15110054 [PubMed - indexed for MEDLINE]

Library Program Office
Office of Information
Veterans Health Administration

21: CNS Spectr. 2003 Sep;8(9):693-8.

Genetics of posttraumatic stress disorder.

Segman RH, Shalev AY.

Department of Psychiatry, Hadassah Hebrew University Medical Center, Jerusalem, Israel. sronen@md2.huji.ac.il

Posttraumatic stress disorder (PTSD) is a prevalent anxiety disorder marked by behavioral, physiologic, and hormonal alterations. PTSD is disabling and commonly follows a chronic course. The etiology of PTSD is unknown, although exposure to a traumatic event constitutes a necessary, but not sufficient, factor. A twin study of Vietnam veterans has shown significant genetic contribution to PTSD. The fact that PTSD's underlying genotypic vulnerability is only expressed following trauma exposure limits the usefulness of family-based linkage approaches. In contrast to the other major psychiatric disorders, large studies for the search of underlying genes have not been described in PTSD to date. Complementary approaches for locating involved genes include association-based studies employing case-control or parental genotypes for transmission disequilibrium analysis and quantitative trait loci studies in animal models. Identification of susceptibility genes will increase our understanding of traumatic stress disorders and help to elucidate their molecular basis. The current review provides an up-to-date outline of progress in the field of PTSD.

Publication Types:

Review

Review Literature

PMID: 15079143 [PubMed - indexed for MEDLINE]

22: CNS Spectr. 2003 Sep;8(9):686-92.

Contemporary longitudinal methods for the study of trauma and posttraumatic stress disorder.

King LA, King DW, Salgado DM, Shalev AY.

National Center for Posttraumatic Stress Disorder, Boston, MA, USA.
lking@theworld.com

Traditional methods for analyzing trends in longitudinal data have typically emphasized average group change over time. In this article, we propose multilevel, regression-based methods for examining inter-individual differences in intra-individual change and apply these methods to research in trauma and posttraumatic stress disorder (PTSD). The outcome or dependent variable of interest is reconceptualized as an index of dynamic change reflecting the trend or trajectory of an individual's PTSD symptom severity scores across time. A basic statistical model is presented, and analyses and findings are demonstrated with an existing database used in previously published studies. The methods offer promise for future study of

the natural course of PTSD chronicity or recovery, risk and resilience factors that influence individual growth or decline, and critical timepoints for intervention.

Publication Types:

Review

Review, Academic

PMID: 15079142 [PubMed - indexed for MEDLINE]

23: CNS Spectr. 2003 Sep;8(9):676-80, 683-5.

Amnesia for traumatic events among recent survivors: a pilot study.

Yovell Y, Bannett Y, Shalev AY.

Department of Psychiatry, Columbia University College of Physicians and Surgeons, New York City, NY, USA.

OBJECTIVE: Traumatic amnesia has been amply documented in the psychoanalytic literature but inconsistently in the research literature. **METHOD:** Six trauma were followed prospectively. Survivors were interviewed 7, 30, and 120 days following the traumatic event. Each interview documented in detail their recollections of the day of their trauma. **RESULTS:** In four subjects who did not develop posttraumatic stress disorder (PTSD), we found brief, stable, and persistent memory gaps, which coincided with the moment of greatest emotional intensity. In two subjects who developed PTSD, we found, in addition to the previous form of amnesia, longer, progressive, and unstable memory gaps. **DISCUSSION:** Neurobiological research offers two explanatory mechanisms for the observations: A failure of acquisition of episodic memories may account for the stable deficits seen in all subjects. This could coincide with stress-induced malfunction of the hippocampal declarative memory system. A failure of spontaneous recall may account for the more extended traumatic amnesia that was observed in PTSD patients. This resembles the psychoanalytic description of repression. **CONCLUSION:** These preliminary findings suggest that brief, irreversible memory gaps are common in trauma survivors, whereas longer, progressive, and potentially reversible amnesia occurs among survivors who develop PTSD.

Publication Types:

Case Reports

PMID: 15079141 [PubMed - indexed for MEDLINE]

24: CNS Spectr. 2003 Sep;8(9):668-74.

Acute stress reactions: can biological responses predict posttraumatic stress disorder?

Bryant RA.

School of Psychology, University of New South Wales, Sydney, Australia.
r.bryant@unsw.edu.au

What biological responses characterize those acute trauma reactions that develop into chronic psychiatric disorder? The need to understand the genesis of posttraumatic psychological disorders has resulted in much attention on biological reactions in the initial aftermath of trauma exposure. This review outlines the prevailing biological models of acute stress reaction and critiques the available evidence concerning biological responses to trauma that are associated with subsequent psychological disorder. The roles of peritraumatic dissociation and vulnerability factors for acute stress reaction are also reviewed. The major challenges for research on psychobiological responses to trauma are highlighted.

Publication Types:

Review

Review Literature

PMID: 15079140 [PubMed - indexed for MEDLINE]

25: CNS Spectr. 2003 Sep;8(9):651-6, 665-7.

The neuroendocrinology of posttraumatic stress disorder: new directions.

Rasmusson AM, Vythilingam M, Morgan CA 3rd.

Department of Psychiatry, Yale University School of Medicine, New Haven, Connecticut, USA. ann.rasmusson@yale.edu

Studies of the hypothalamic-pituitary-adrenal (HPA) axis in persons with posttraumatic stress disorder (PTSD) have produced variable findings. This review focuses on the factors likely to have affected the outcome of these studies, including population characteristics and experimental design. Also discussed is a possible role for the adrenal neurosteroid dehydroepiandrosterone (DHEA) as a mediator of HPA axis adaptation to extreme stress and the psychiatric symptoms associated with PTSD. The antiglucocorticoid properties of DHEA may contribute to an upregulation of HPA axis responses as well as mitigate possible deleterious effects of high cortisol levels on the brain in some PTSD subpopulations. The neuromodulatory effects of DHEA and its metabolite DHEAS at gamma-aminobutyric acid and N-methyl-D-aspartate receptors in the brain may contribute to psychiatric symptoms associated with PTSD. The possible importance of other neurohormone systems in modulating HPA axis and symptom responses to traumatic stress is also discussed. Understanding the complex interactions of these stress-responsive neurosteroid and peptide systems may help explain the variability in patterns of HPA axis adaptation, brain changes, and psychiatric symptoms observed in PTSD and lead to better targeting of preventive and therapeutic interventions.

Publication Types:

Review

Review Literature

PMID: 15079139 [PubMed - indexed for MEDLINE]

26: CNS Spectr. 2003 Sep;8(9):641-50.

Brain-imaging studies of posttraumatic stress disorder.

Liberzon I, Phan KL.

Department of Psychiatry, University of Michigan, Ann Arbor, Michigan, USA.

Brain-imaging studies of posttraumatic stress disorder (PTSD) have rapidly increased in recent years. Structural studies have identified potential smaller volumes of the hippocampus of traumatized and/or PTSD subjects. Functional activation studies have implicated hyperactive or altered functioning of brain regions, such as the amygdala and the insula, and a failure to engage emotional regulatory structures, such as the medial prefrontal and anterior cingulate cortex. Recent neurochemical investigations have suggested that neuromodulatory systems (eg, gamma-aminobutyric acid, micro-opioid) may underlie these aberrant brain activation patterns. This article reviews the literature on structural, functional, and neurochemical brain-imaging studies of PTSD.

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Review

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27: CNS Spectr. 2003 Sep;8(9):640.

The interdisciplinary study of posttraumatic stress disorder.

Shalev AY.

Department of Psychiatry, Hadassah University Hospital, Jerusalem, Israel.

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28: CNS Spectr. 2003 Sep;8(9):634.

Posttraumatic stress disorder: a hidden epidemic.

Zohar J.

Division of Psychiatry, Chaim Sheba Medical Center, Tel-Hashomer, Israel.

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29: Integr Physiol Behav Sci. 2003 Jul-Sep;38(3):230-47.

Pavlovian eyeblink conditioning in combat veterans with and without post-traumatic stress disorder.

Ayers ED, White J, Powell DA.

Shirley L. Buchanan Neuroscience Laboratory, Dorn V.A. Medical Center, Columbia, SC 29209, USA.

Several recent studies have investigated relationships between post traumatic stress disorder (PTSD) and learning and memory problems. These reports have found in general that not only does PTSD affect trauma-related memories, but when patients with PTSD are compared with similar trauma patients without PTSD, general memory impairments have been found. The present paper reports a study in which associative learning, using Pavlovian eyeblink conditioning, was investigated in combat veterans with and without chronic PTSD, using interstimulus intervals of 500 and 1000 msec in two separate experiments. Although several recent reports suggest that larger-magnitude autonomic conditioned responses occur in patients with PTSD during Pavlovian conditioning, the present study found evidence of impaired Pavlovian eyeblink conditioning in combat veterans with and without PTSD, compared to non-combat veterans. Although these data suggest that combat leads to an impaired associative learning process regardless of whether PTSD is apparent, a group of community-dwelling combat veterans not under medical treatment showed normal conditioning, suggesting that variables other than prior combat must also be involved.

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30: Psychiatr Clin North Am. 2004 Mar;27(1):49-65, viii.

Clinical correlates of neurological change in posttraumatic stress disorder: an overview of critical systems.

Kimble M, Kaufman M.

Boston University School of Medicine/Veterans Administration Boston Healthcare System, 150 South Huntington Avenue, Psychology 116B-2, Boston, MA 02130, USA. m.kimble@bangor.ac.uk

Knowledge about the biological basis of psychological trauma is changing at an exponential rate. A PsychINFO search on the search terms "locus coeruleus" and "PTSD" revealed one peer-reviewed journal article between 1982 and 1992 and 51 in the subsequent decade. A similar search revealed zero articles on "hippocampus" and "PTSD" between 1982 and 1992 and 170 in the past decade. As clinicians, it is important to become increasingly familiar with this growing literature to use that knowledge to treat and educate patients. Imagine the relief that can be provided to survivors of trauma if clinicians can tell them that they have a good idea about what causes their symptoms and even clearer ideas about how to treat them. One ancillary but invaluable outcome to this work is the fact that understanding the neurological underpinnings of PTSD will go a long way to establishing a necessary equilibrium in nature and nurture's role in the etiology and maintenance of the disorder. In its early conceptualization, PTSD was thought by many to be an ordinary reaction to an extraordinary event, thus placing responsibility for the disorder firmly in the hands of environmental factors. A subsequent emphasis on vulnerability and resiliency factors in the disorder, however, gave the impression that genetic and potentially hard-wired neurological factors were dominant in the expression of the disorder. Appreciating the balance between nature and nurture in the development of stress disorders like PTSD will allow clinicians and patients alike to appreciate the role of personal responsibility in the process of recovery. A parallel, albeit more mature process, has occurred in the area of schizophrenia in the past four decades. Early

conceptualizations of schizophrenia placed a heavy burden on parenting and behavioral factors, leaving the patients angry at their parents and parents with unnecessary guilt. The later dominance of genetic and biological theories in the disorder allayed parents of their guilt, but left both parents and patients wondering what might be done in the face of such an affliction. Modern theories of schizophrenia seem to have achieved an appropriate balance that recognizes biological vulnerabilities, but also emphasizes familial and patient responsibilities in recovery and care. In PTSD, a similar equilibrium needs to be found, and understanding the neurobiology of the disorder will go far in achieving that goal. When it is understood how trauma affects the brain and how treatment produces neurobiological changes that may remediate trauma-related effects, the patient will be in a better position to make choices about what can and cannot be done in the process of recovery. Giving patients this critical internal locus of control will provide therapeutic benefits such as confidence, self-esteem, and hope that are likely to enhance changes that occur with intervention.

Publication Types:

Review

Review, Academic

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31: Psychiatry Res. 2003 Jul 15;119(1-2):171-5.

Prospective evaluation of plasma cortisol in recent trauma survivors with posttraumatic stress disorder.

Bonne O, Brandes D, Segman R, Pitman RK, Yehuda R, Shalev AY.

The Center for Traumatic Stress, Hadassah University Hospital, Jerusalem, Israel.
bonneo@intr.nimh.nih.gov

Hypothalamic pituitary adrenal axis abnormalities have been described in posttraumatic stress disorder (PTSD), and among the recently traumatized. Plasma cortisol and continuous measures of PTSD symptoms were obtained from 21 survivors, at 1 week and 6 months after traumatic events. Eight survivors met Clinician Administered PTSD Scale criteria for PTSD at 6 months. Cortisol levels at 1 week did not predict subsequent PTSD. Survivors with and without PTSD had similar mean levels of cortisol at both time points. Cortisol levels at 6 months negatively correlated with self-reported PTSD symptoms within PTSD subjects.

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